U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Norfolk Southern Bartow Derailment - Removal Polrep
Initial Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject:	**POLREP #1** **Initial POLREP of Consequence Management Phase of NS Bartow Derailment** **Norfolk Southern Bartow Derailment** **Bartow, GA** **Latitude: 32.8973490 Longitude: -82.4908240**
To:	James Webster, USEPA R4 ERRPB Jerry Campbell, GAEPD
From:	Richard Jardine, FOSC
Date:	1/10/2019
Reporting Period:	1/09/2019 to 1/10/2019

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	PRP Oversight
Response Lead:	PRP	**Incident Category:**	
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:		**Start Date:**	
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category -

This action is the Consequence Management Phase of an Emergency Response. CERCLA Emergency Response Action

1.1.2 Site Description - Derailment - On January 6, Norfolk Southern reported the derailment of approximately 39 railcars, 19 of which were carrying hazardous materials (HAZMAT), while traveling near the City of Bartow, Georgia causing the evacuation of approximately 350 residents. Norfolk Southern railroad, the Jefferson County Emergency Management Agency, Georgia Environmental Protection Division (GAEPD) and the EPA established a Unified Command to respond to the Site.

1.1.2.1 Location - just north of the City of Bartow, GA

1.1.2.2 Description of Threat – The potential release of chlorine gas creating a poison inhalation hazard, intense fire or explosion, severe skin, and respiratory burns.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results - All 19 cars are now stabilized and staged for product transfer. The Responsible Party (RP) is developing a sampling plan to provide for removal of contaminated soil and surface water as appropriate.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative – Chemicals contained in the derailed include chlorine, hydrochloric acid, hydrogen peroxide, sodium hydroxide, and sodium bisulfite. A total of 19 hazard material cars were severely damaged during the derailment. Thirteen of the 19 cars damaged are chlorine cars. The hydrochloric acid, hydrogen peroxide, and sodium bisulfite cars were breached. At least one chlorine car suffered a fractured valve within the dome assembly. That car required the installation of a 'C' repair kit. The acid and oxidizer cars lost significant product which pooled together and created an acid vapor plume that burned approximately 27 responders and community members. Several victims required specialized care in the Doctors Hospital burn unit in Augusta.

2.1.2 Response Actions to Date - During the early stages immediately after the derailment, local responders evacuated more than 300 community members from within a 3-mile radius of the derailment site. The releases from the breached cars continued during the emergency, causing work crews to withdraw several times during their response efforts. Those efforts include -identify the condition of the cars, safely move and stage all cars, and stop the releases for those cars that were breached. Although the cars are secure and staged, they are not transportable. A high hazard risk remains during the requisite transloading of material to sound tankers. Additionally, the responsible party is taking measures to address environmental contamination

During this reporting period, work crews
- pumped the sodium bisulfite into poly tanks.
- began decontamination of the chlorine cars. This process entails neutralizing (with a caustic agent) the insulation materials in the space between the tank itself and the jacket.
- product transfer of the hydrochloric acid from the damaged tanker into a lined frac tank.
- mixing of a diluted base with the 'pit' acid. The pit is an area where the pile of derailed cars landed. This is a swampy area that was severely wallowed out due to the movement of heavy equipment and loaded damaged cars.
- collected surface water samples.
- conducted air monitoring.

Additionally, upon a request by the Mayor of Bartow , EPA began taking measures to make a determination whether the City of Bartow's drinking water system was impacted by the incident.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs) - No enforcement actions have been taken as of this time.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*

2.2 Planning Section

No information available at this time.

2.3 Logistics Section
No information available at this time.

2.4 Finance Section
No information available at this time.

2.5 Other Command Staff
No information available at this time.

3. Participating Entities
No information available at this time.

4. Personnel On Site
No information available at this time.

5. Definition of Terms
No information available at this time.

6. Additional sources of information
No information available at this time.

7. Situational Reference Materials
No information available at this time.

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Norfolk Southern Bartow Derailment - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject:	**POLREP #2** **Progress POLREP High-Hazard Consequence Phase** **Norfolk Southern Bartow Derailment** **Bartow, GA** **Latitude: 32.8973490 Longitude: -82.4908240**
To:	James Webster, USEPA R4 ERRPB Jerry Campbell, GAEPD
From:	Richard Jardine, FOSC
Date:	1/15/2019
Reporting Period:	1/10/2019 to 1/15/2019

1. Introduction

1.1 Background

Site Number:	C476	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	PRP Oversight
Response Lead:	PRP	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	1/6/2019	**Start Date:**	1/6/2019
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	01/06/2019
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category - This action is the Consequence Management Phase of an Emergency Response. CERCLA Emergency Response Action

1.1.2 Site Description - Derailment - On January 6, Norfolk Southern reported the derailment of approximately 39 railcars, 19 of which were carrying hazardous materials (HAZMAT), while traveling near the City of Bartow, Georgia causing the evacuation of approximately 350 residents. Norfolk Southern railroad, the Jefferson County Emergency Management Agency, Georgia Environmental Protection Division (GAEPD) and the EPA established a Unified Command to respond to the Site.

1.1.2.1 Location - just north of the City of Bartow, GA

1.1.2.2 Description of Threat - The potential release of chlorine gas creating a poison inhalation hazard, intense fire or explosion, severe skin, and respiratory burns.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results -All 19 cars are now stabilized and staged for product transfer. The Responsible Party (RP) is developing a sampling plan to provide for removal of contaminated soil and surface water as appropriate.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative – Chemicals contained in the derailed include chlorine, hydrochloric acid, hydrogen peroxide, sodium hydroxide, and sodium bisulfite. A total of 19 hazard material cars were severely damaged during the derailment. Thirteen of the 19 cars damaged are chlorine cars. The hydrochloric acid, hydrogen peroxide, and sodium bisulfite cars were breached. At least one chlorine car suffered a fractured valve within the dome assembly. That car required the installation of a 'C' repair kit. The acid and oxidizer cars lost significant product which pooled together and created an acid vapor plume that burned approximately 27 responders and community members. Several victims required specialized care in the Doctors Hospital burn unit in Augusta.

2.1.2 Response Actions to Date - During the early stages immediately after the derailment, local responders evacuated more than 300 community members from within a 3-mile radius of the derailment site. The releases from the breached cars continued during the emergency, causing work crews to withdraw several times during their response efforts. Those efforts include -identify the condition of the cars, safely move and stage all cars, and stop the releases for those cars that were breached. Although the cars are secure and staged, they are not transportable. A high hazard risk remains during the requisite transloading of material to sound tankers. Additionally, the responsible party is taking measures to address environmental contamination.

During this reporting period, work crews
- pumped the sodium bisulfite into poly tanks.
- began a decontamination process of the chlorine cars. This process entails neutralizing (with a caustic agent) the insulation materials in the space between the tank itself and the jacket.
- product transfer of the hydrochloric acid from the damaged tanker into a lined frac tank.
- mixing of a diluted base with the 'pit' acid. The pit is an area where the pile of derailed cars landed. This is a swampy area that was severely wallowed out due to the movement of heavy equipment and loaded damaged cars.
- collected surface water samples.
- conducted air monitoring.

Additionally, upon a request by the Mayor, EPA began taking measures to make a determination whether the City of Bartow drinking water system was impacted by the incident.

During this reporting period:
- offloaded material from hydrogen peroxide railcar (estimated 7000 gallons) through water/lime bubbling neutralizer.
- completed purging of hydrogen peroxide railcar;
- move empty cars (empty tank and box cars) away from the work & staging area;
- continued air and surface water monitoring;
- circulating swamp water (from the woods) back to the dirt road stormwater conveyance, where the lime powder is introduced to lower pH;
- prepped for chlorine transfer (i.e., set frac tanks with sodium hydroxide, engineer rail spur,
- began to off-load of sodium hydroxide cars;
- begin spur line construction;
- add insulation to chlorine cars (if needed)

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs) - No enforcement actions have been taken as of this time.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*
hydrochloric acid	air/water/soil	17k gallons			
chlorine	air	< 1 lb			
hydrogen peroxide	air/water/soil	15k gallons			
sodium bisulfite solution	water/soil	5 gallons			

2.2 Planning Section

2.2.1 Anticipated Activities - ship hydroxide off site, purge hydroxide cars (2 cars), move from work area.

2.2.1.1 Planned Response Activities

2.2.1.2 Next Steps - ship liquid waste products to treatment works in Greenville; ship viable commodities to manufacturers; prepare for Chlorine transload.

2.2.2 Issues

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command - Jefferson County EMA Director Jim Anderson and GA EPD SOSC Clete Barton remain engaged from their respective offices. EPA R4 and Norfolk Southern remain on Site, rotating key personnel. For EPA, OSC Rhame intends to demobe Tuesday 15JAN19, OSC Eichinger mobilizes Wednesday 16JAN19. EPA START contractor also rotates personnel and have maintained a continuous Site presence.

3.2 Cooperating Agencies - FRA is independently conducting their investigations on site and off site. R4 RRT has convened episodically throughout the response.

4. Personnel On Site

No information available at this time.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Norfolk Southern Bartow Derailment - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject:	**POLREP #3** **Progress Pollution Report (POLREP) High-Hazard Consequence Phase** **Norfolk Southern Bartow Derailment** **Bartow, GA** **Latitude: 32.8973490 Longitude: -82.4908240**
To:	James Webster, USEPA R4 ERRPB Jerry Campbell, GAEPD
From:	Kevin Eichinger, Federal On-Scene Coordinator (FOSC)
Date:	1/20/2019
Reporting Period:	January 16, 2019 through January 20, 2019

1. Introduction

1.1 Background

Site Number:	C476	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	PRP Oversight
Response Lead:	PRP	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	1/6/2019	**Start Date:**	1/6/2019
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	01/06/2019
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category -

Comprehensive Environmental Response, Compensation and Liability Act - Mobile Transportation Accident. This action is the Consequence Management Phase of an Emergency Response.

1.1.2 Site Description - Derailment

On January 6, Norfolk Southern reported the derailment of approximately 39 rail-cars, 19 of which were carrying hazardous materials (HAZMAT), while traveling near the City of Bartow, Georgia causing the evacuation of approximately 350 residents. Norfolk Southern, Jefferson County Emergency Management Agency, Georgia Environmental Protection Division (GAEPD) and the EPA established a Unified Command for the response.

1.1.2.1 Location

The location of the derailment (the Site) is near Friendship Church Road and State Highway 171. The nearest town landmark is the City of Bartow. Norfolk Southern reported via the National Response Center (Report # 1234710) that the derailment took place on the main line at Mile Post (MP) S112.7. The derailment occurred in a wetland area of Williamson Swamp Creek, which is a tributary of the Ogeechee River. The immediate area surrounding the Site is predominantly farmland. The City of Bartow, the most populated area, is located two (2) miles from the derailment site.

1.1.2.2 Description of Threat

Poison Inhalation hazard, intense fire or explosion, severe skin and respiratory burns. The following hazardous substances were involved in the derailment:

Hydrochloric Acid is classified as a corrosive liquid, which causes severe skin burns and eye damage on contact. It is toxic if inhaled.

Hydrogen Peroxide is classified as an oxidizing material. It may cause fire or explosion on contact with organic materials such as diesel fuel. Hydrogen Peroxide causes severe skin burns and eye damage. Harmful if inhaled.

Sodium Hydroxide is classified as a corrosive material. Sodium Hydroxide causes severe skin burns and eye damage.

Sodium Bisulfite is classified as a corrosive material. Harmful if swallowed. a Sodium Bisulfite causes serious eye damage. This tank car is not currently releasing.

Chlorine is classified as a poison by inhalation hazard and a marine pollutant. May cause or intensify the fire. Chlorine causes skin irritation and serious eye irritation. Toxic if inhaled. Very toxic to aquatic life. These tank cars are not currently releasing.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

All 19 cars are now stabilized and staged for product transfer. The Responsible Party (RP) is developing a sampling plan to provide for removal of contaminated soil and surface water as appropriate.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Derailed tank cars were carrying chemicals including chlorine, hydrochloric acid, hydrogen peroxide, sodium hydroxide, and sodium bisulfite. Nineteen hazmat cars were severely damaged during the derailment. Thirteen of the 19 are chlorine cars. The hydrochloric acid, hydrogen peroxide, and sodium bisulfite tank cars were breached. At least one chlorine car suffered damage within the dome assembly. That car required the installation of a 'C' repair kit. The acid and oxidizer tank car lost significant product which pooled together and created an acid vapor plume that burned approximately 27 responders and community members. Several victims required specialized care in the Doctors Hospital Burn Unit in Augusta. Additionally, the two railroad workers suffered burns and received advanced medical treatment. EPA Federal On-Scene Coordinators (FOSC) and Superfund Technical Assessment and Response Team (START) have been deployed to coordinate with local, state and Federal partners, provide oversight of cleanup operations and to conduct onsite and community air monitoring operations.

2.1.2 Response Actions to Date

The following actions occurred during this reporting period:

1/15/19
•CTEH conducted water quality monitoring at seven locations west and southwest of the Site. The pH of the swamp area west of onsite pit was 5.1 along the shoreline and 3.2 approximately 10-15 yards into the swamp. The pH in the rest of the areas ranged from 6.2 to 6.7 standard Units (s.u.).

•HEPACO added citric acid to the small NaOH frac tank located next to the Na HSO_3 tanker car to lower the pH. The contents were transferred into two tanker trucks from Shamrock Environmental, Greensboro, NC, for transport to a wastewater treatment facility for disposal. Approximately, 4,200 gallons of the NaOH solution was also transported from the site.
•HEPACO transferred approximately 2,750 gallons of the solution from the HCl frac tank into 11 275-gallon totes for transport to Brenntag located in Charlotte, NC for beneficial reuse.
•SPSI/HEPACO transferred approximately 7,000 gallons of NaOH from tanker car GATX90886 into two tanker trucks for transport to Olin located in Augusta, GA for reclamation.
•Received and staged frac tanks on site. Began filling the large frac tank at the northern portion of the Site with water in preparation for the chlorine transfer.
•Norfolk Southern continued working on the rail line and the rail spur.

1/16/19
•CTEH conducted water quality monitoring at seven locations west and southwest of the Site. The pH of the swamp area west of the onsite pit was 5.4 along the shoreline and 3.2 approx. 10-15 yards into the swamp. The pH in the rest of the areas ranged from 6.1 to 6.6s.u. CTEH also collected a water quality reading from the northwestern shoreline of the onsite pit. The pH was 3.77 s.u., and the salinity was 9.
•HEPACO transferred approximately 2,650 gallons of the solution from the HCl frac tank into 10.5, 275 gallon totes for transport to Brenntag located in Charlotte, NC for beneficial reuse. A total of 21.5 totes with approximately 5,400 gallons of HCl solution will be transported to Brenntag tomorrow. Rinsate from the HCl frac tank and pump decons were placed into totes and will be treated on-site to raise the pH from 0.7 to above 3. The HCl tank car is completely empty and has been cleaned/purged.
•SPSI/HEPACO transferred approximately 9,800 gallons of NaOH from tanker car GATX90886 into three tanker trucks for transport to Olin located in Augusta, GA for reclamation. A total of 16,800 gallons of NaOH was transported to Olin.
•SPSI/HEPACO began transferring NaOH from tanker car PROX64117 into the large frac tank in preparation for the chlorine transfer. There were approximately 10,700 gallons of water placed into the frac tank, and enough NaOH will be transferred into the tank to make a 20-25% NaOH solution.
•Continued filling other water storage tanks at the Site with water in preparation for the chlorine transfer.
•Norfolk Southern continued working on the rail line and the rail spur.
•The onsite pit containing the material released from the tank cars was sampled and sent offsite for analysis. NS will ship this material off for wastewater treatment. They estimate that they have 100,000 gallons of waste to handle from the pit. Resources to pump the material into portable tanks have been ordered.
•Air monitoring continued throughout the Site. No issues observed.
•EPA, START and GA EPD met this morning and developed an air monitoring plan for the chlorine trans-load. EPA will co-locate air monitoring equipment with Norfolk Southern contractors during the trans-load process and will be prepared for community monitoring if a mishap occurs.
• Norfolk Southern will submit all requested plans by Friday morning for the EPA, GA EPD, and Jefferson County review. The Draft Site Closure Plan was received today. The plans still due for review are the Chlorine trans-Load Plan (including a detailed schematic and the system), a Health and Safety Plan for the Chlorine trans-load, and a Contingency Plan to address the response to any mishaps. A face to face meeting will be scheduled on Friday to discuss the plans.

1/17/2019

•In the morning, CTEH conducted water quality monitoring at seven locations west and southwest of the Site. The pH of the swamp area west of the onsite pit was 4.4 along the shoreline and 3.6 approximately 10-15 yards into the swamp. The pH at the rest of the areas ranged from 6.1 to 6.7 s.u.
•A total of 21.5 totes with approximately 5,400 gallons of HCl solution were transported to Brenntag located in Charlotte, NC for beneficial reuse.
•Totes containing rinsate from the HCL frac tank and pump decon were treated onsite to raise the pH above 3. Work to raise the pH will continue into tomorrow.
•Two tanker trucks from Brenntag transferred NaOH into three "scrubber" frac tanks that are staged in preparation for the chlorine transfer. There were approximately 4,600 gallons of NaOH solution placed into each of the three tanks.

•SPSI/HEPACO finished transferring NaOH from tanker car PROX64117 into a Vac Truck and began transferring the NaOH into water storage tanks to create a 20-25% NaOH solution in preparation for the chlorine transfer.
•Tanker car PROX64117(empty) was moved and staged next to GATX90886. Norfolk Southern began installing tracks on the rail spur. Construction of the spur line was nearing completion by the end of the day.
•CTEH also conducted water quality monitoring in the afternoon at seven locations west and southwest of the Site. The pH of the swamp area west of the onsite pit was 3.8 along the shoreline and 3.4 approx. 10-15 yards into the swamp. The pH at the rest of the areas ranged from 6.0 to 6.5 s.u.
•Crews continued filling other water storage tanks at the Site with water in preparation for the chlorine transfer.
•EPA reviewed and provided comments/recommendation on Norfolk Southern's Site Closure and End Points Plan and provided example emergency contingency plans in preparation for the Chlorine Transload. Multiple meetings are scheduled today (Friday) to discuss and finalize plans for the Chlorine trans-loading Operation.

1/18/2019

•In the morning, CTEH conducted water quality monitoring at seven locations west and southwest of the Site. The pH of the swamp area west of the pit was 4.0 along the shoreline and 3.8 approx. 10-15 yards into the swamp. The pH at the rest of the areas ranged from 6.4 to 6.7 s.u.
•Brenntag tanker trucks continued transferring NaOH into frac tanks and water tanks throughout the day to create a 20-25% NaOH solution. The frac tanks and water tanks staged in preparation for the chlorine transfer.
•Norfolk Southern finished installing the rail spur that will be used during the chlorine transfer process.
•Totes containing rinsate from the HCL frac tank and pump decon were addressed to raise the pH above 3. Work to raise the pH will continue.
•HEPACO/SPSI made confined space entry into NaOH tanker cars PROX64117 and GATX90886 for final cleaning. Both tanks have now been cleaned and sparged.
•Crews began preparation for the transfer of water from the pit into three large frac tanks. The water will be transferred off-site by Shamrock Environmental in Greensboro, NC for wastewater treatment.
•CTEH conducted water quality monitoring in the afternoon at seven locations west and southwest of the Site. The pH of the swamp area west of the pit was 4.6 along the shoreline and 3.8 approx. 10-15 yards into the swamp. The pH at the rest of the areas ranged from 6.2 to 6.9 s.u.

•EPA and START participated in a Unified Command meeting to discuss the safety and transfer process plan for chlorine transfers scheduled to begin Monday, 1/21/19. The EPA emergency response trailer arrived on site and was staged with air monitoring equipment in preparation for the chlorine transfer.

1/19/2019

•In the morning, CTEH conducted water quality monitoring at seven locations west and southwest of the Site. The pH of the swamp area west of the pit was 4.6 along the shoreline and 3.8 approx. 10-15 yards into the swamp. The pH at the rest of the areas ranged from 6.3 to 6.8 s.u.

•SPSI continued to prep the 20-25% NaOH solution in staged frac tanks and water tanks in preparation for the chlorine transfer. All chlorine tanker cars, frac tanks, and water tanks are now labeled based on contents and unique Site ID.
•Totes containing rinsate from the HCL frac tank and pump decon achieved a neutral pH. The totes will be picked up by Shamrock Environmental at a later date.

•HEPACO pumped out water from the pit into three large frac tanks (~20,000 gallons each). The water will be transferred off-site by Shamrock Environmental in Greensboro, NC for wastewater treatment. An excavator filled in areas of the pit with excess soil during the pumping process. The pit will continue to be addressed in the coming days.

•Norfolk Southern transferred in four empty chlorine tanker cars to the rail spur. The tanker cars were staged in preparation for the chlorine transfer process (SHPX240437, SBLX 14048, SBLX 14037, TILX 600803).
•In the afternoon, CTEH conducted water quality monitoring at seven locations west and southwest of the Site. The pH of the swamp area west of the pit was 5.3 along the shoreline and 3.8 approximately 10-15 yards into the swamp. The pH at the rest of the areas ranged from 6.2 to 6.9 s.u.

•The Site was further prepped for the chlorine transfers by conducted general site maintenance that included adding gravel in all areas where chlorine cars are staged. Scaffolding construction began and will continue into Sunday 1/20.

1/20/19
•In the morning, CTEH conducted water quality monitoring at seven locations west and southwest of the Site. The pH of the swamp area west of the pit was 5.2 along the shoreline and 3.6 approx. 10-15 yards into the swamp. The pH at the rest of the areas ranged from 6.1 to 6.7 s.u.
•START and EPA set up and deployed air monitoring equipment in preparation for chlorine transfers that will begin on Monday 1/21/19. Four strategically placed Area RAEs will run continuously throughout the chlorine transfer process with real-time data streaming to ProRAE Guardian and forwarded to VIPER. MultiRAE Pros will be implemented as personal air monitors when the EPA and START personnel enter the Site.
•SPSI and SRS constructed and staged all piping and connection components for the transfer of two priority chlorine cars that will occur Monday 1/21/19. The damage chlorine car OLNX 14043 is deemed a priority based on the presence of a C-Kit, its contents will be transferred into empty chlorine car SBLX14037. Chlorine car OLNX 117062 is deemed a priority based on the severity of damage to the tanker, its contents will be transferred into empty chlorine car SBLX 14048.
•SPSI conducted final walkthroughs of all staged equipment and monitored the 20-25% NaOH solution in frac tanks and water tanks that will be implemented during the chlorine transfer.
•The pit is currently stable, roughly 60,000 gallons have been pumped into three large frac tanks. The water will be transferred off-site by Shamrock Environmental in Greensboro, NC for wastewater treatment.
•In the afternoon, START conducted water quality monitoring at seven locations west and southwest of the Site. The pH of the swamp area west of the pit was 4 along the shoreline of the swamp. The pH at the rest of the areas ranged from 6 to 7.
•The Site was finalized in preparation for the chlorine transfers by conducting general site maintenance that included adding gravel in all areas where chlorine cars are staged, constructing scaffolding, and laying out health and safety measures around where the chlorine transfers will take place.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The Railroad Line and Train was operated by Norfolk Southern (NS). The product involved in the release was owned by multiple different parties. No enforcement actions have been taken as of this time.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*
Hydrochloric acid	air/water/soil	17,000 gallons			
Chlorine	air	< 1 lb			
	air/water/soil				

Hydrogen peroxide		15,000 gallons			
Sodium Bisulfite solution	water/soil	5 gallons			

2.2 Planning Section

2.2.1 Planned Response Activities

Pumping of the onsite collection pit will continue into the next reporting period. Material will shipped for offsite waste water treatment beginning January 21 and continue until the pit is emptied. Chlorine Transfer Operations will commence on January 21. Four cars will be transferred over two days, break one day and then continue transfer. Below is the tentative schedule, this is subject to change:

Monday 1/21

- 0700 hours Safety Brief. All START and EPA personnel should attend this
- Day Shift - Transfer during daylight hours, 12-14 hour shift. Transfer OLNX114043 (C-Kit Car), OLNX117062 (High Pressure Car) SBLX14116, fourth is TBD
- Night shift - Depressurize and degas empty cars, managed scrubber solutions.

Tuesday 1/22

- 0700 hours Safety Brief. All START and EPA personnel should attend this
- Day Shift - Transfer during daylight hours, 12-14 hour shift. Transfer OLNX114043 (C-Kit Car), OLNX117062 (High Pressure Car) SBLX14116, fourth is TBD
- Night shift - Depressurize and degas empty cars, managed scrubber solutions.

Wednesday 1/23

- 0700 hours Safety Brief. All START and EPA personnel should attend this
- Day and Night Shift – Prep for next four cars, no transfer.

Thursday 1/24

- 0700 hours Safety Brief. All START and EPA personnel should attend this
- Day Shift - Transfer during daylight hours, 12-14 hour shift. Cars TBD.
- Night shift - Depressurize and degas empty cars, managed scrubber solutions.

Friday 1/25

- 0700 hours Safety Brief. All START and EPA personnel should attend this
- Day Shift - Transfer during daylight hours, 12-14 hour shift. Cars TBD
- Night shift - Depressurize and degas empty cars, managed scrubber solutions.

Saturday 1/26

- 0700 hours Safety Brief. All START and EPA personnel should attend this
- Day and Night Shift – Prep for next four cars, no transfer.

Sunday 1/27

- 0700 hours Safety Brief. All START and EPA personnel should attend this
- Day Shift - Transfer during daylight hours, 12-14 hour shift. Cars TBD.
- Night shift - Depressurize and degas empty cars, managed scrubber solutions.

Monday 1/28

- 0700 hours Safety B ief. All START and EPA personnel should attend this
- Day Shift - Transfer uring daylight hours, 12-14 hour shift. Cars TBD
- Night shift - Depressu rize and degas empty cars, managed scrubber solutions.

Tuesday 1/29

- 0700 hours Safety Bri f. All START and EPA personnel should attend this
- Day and Night Shift – Prep for next car, no transfer.

Wednesday 1/30

- 0700 hours Safety Brief. All START and EPA personnel should attend this
- Day Shift - Transfer during daylight hours, 12-14 hour shift. Car TBD.
- Night shift - Depressurize and degas empty cars, managed scrubber solutions.

2.2.2 Issues

No issues identified during this reporting period.

2.3 Logistics Section

Logistical support is provided by:

Norfolk Southern
Contractors for Norfolk Southern
EPA START Contractor
The EPA Regional Readiness Center (RRC)

2.4 Finance Section

2.4.1 Narrative

A Technical Direction Document (TDD) was issued to START Contractor Tetra Tech to provide assistance with the response.

2.5 Other Command Staff

2.5.1 Safety Officer

No injuries or safety incidents occurred during this reporting period. EPA has reviewed the health and safety plans for the Chlorine Transfer Operations. EPA and START participate in daily site safety briefings.

2.5.2 Liaison Officer

EPA FOSC continue to coordinate with GAEPD and Jefferson County.

2.5.3 Information Officer

No media request occurred during this reporting period. Jefferson County EMA has taken the lead on media and community relations.

3. Participating Entities

3.1 Unified Command

Jefferson County Emergency Management Agency (EMA) Director and GAEPD State On-Scene Coordiantor (SOSC) remain engaged from their respective offices. EPA R4 and Norfolk Southern remain onsite, rotating key personnel. For EPA, FOSC Eichinger intends to demobilize on January 21, FOSC Garrard mobilizes January 20. EPA START contractor also rotates personnel and have maintained a continuous presence.

3.2 Cooperating Agencies

Federal Railroad Administration (FRA) is independently conducting their investigations on site and off site. Region 4 Regional Response Team (RRT) has convened episodically throughout the response.

4. Personnel On Site

Jefferson County Emergency Management Personnel are assisting with the response.

GAEPD SOSC are assisting with the response

Norfolk Southern is on-scene with resources mobilized including HAZMAT cleanup contractors, Environmental Scientists, Derailment cleanup contractors, and HAZMAT Technical Specialists.

One (1) Region 4 EPA On-Scene Coordinators is onscene provide oversight and coordinating with State and Local Partners.

Superfund Technical Assessment and Response Team (START) contractors have been deployed to support EPA in the response.

5. Definition of Terms

No pertinent information to report at this time.

6. Additional sources of information

6.1 Internet location of additional information/report

Additional information can be found at response.epa.gov/nsbartowchlorine. Log-in credentials may be required to view certain content.

6.2 Reporting Schedule

Pollution Reports (POLREP) will be drafted weekly based on site activities. Please note that POLREP must be review and approved prior to publication, so there may be a delay.

7. Situational Reference Materials

Additional information can be found at response.epa.gov/nsbartowchlorine. Log-in credentials may be required to view certain content.

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Norfolk Southern Bartow Derailment - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject:	**POLREP #4** **Progress Pollution Report (POLREP) High-Hazard Consequence Phase** **Norfolk Southern Bartow Derailment** **Bartow, GA** **Latitude: 32.8973490 Longitude: -82.4908240**
To:	James Webster, USEPA R4 ERRPB Jerry Campbell, GAEPD
From:	Greg Harper, Federal On-Scene Coordinator (FOSC)
Date:	1/31/2019
Reporting Period:	January 20, 2019 through January 28, 2019

1. Introduction

1.1 Background

Site Number:	C476	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	PRP Oversight
Response Lead:	PRP	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	1/6/2019	**Start Date:**	1/6/2019
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	01/06/2019
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category -

Comprehensive Environmental Response, Compensation and Liability Act - Mobile Transportation Accident. This action is the Consequence Management Phase of an Emergency Response.

1.1.2 Site Description - Derailment

On January 6, Norfolk Southern reported the derailment of approximately 39 cars, 19 of which were carrying hazardous materials (HAZMAT), traveling near the City of Bartow, Georgia causing the evacuation of approximately 350 residents. Norfolk Southern, Jefferson County, Georgia Environmental Protection Division (GAEPD) and the EPA established a Unified Command. .

1.1.2.1 Location

The location of the derailment (the Site) is near Friendship Church Road and State Highway 171. The nearest town landmark is the City of Bartow. Norfolk Southern reported via the National Response Center (Report # 1234710) that the derailment took place on the main line at Mile Post (MP) S112.7. The derailment occurred in a wetland area of Williamson Swamp Creek, which is a tributary of the Ogeechee River. The immediate area surrounding the Site is predominantly farmland. The City of Bartow, the most populated area, is located two (2) miles from the derailment site.

1.1.2.2 Description of Threat

Poison Inhalation hazard, intense fire or explosion, severe skin and respiratory burns. The following hazardous substances were involved in the derailment:

Hydrochloric Acid is classified as a corrosive liquid that causes severe skin burns and eye damage on contact. It is toxic if inhaled.

Hydrogen Peroxide is classified as an oxidizing material. May cause fire or explosion on contact with organic materials such as diesel fuel. Hydrogen Peroxide causes severe skin burns and eye damage. Harmful if inhaled.

Sodium Hydroxide is classified as a corrosive material that causes severe skin burns and eye damage.

Sodium Bisulfite is classified as a corrosive material. Harmful if swallowed that causes serious eye damage. This tank car is not currently releasing.

Chlorine is classified as a poison by inhalation hazard and a marine pollutant. May cause or intensify when involved in a fire. Chlorine causes skin irritation and causes serious eye irritation. Toxic if inhaled. Very toxic to aquatic life. These tank cars are not currently releasing.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

All 19 cars are now stabilized and staged for product transfer, 5 have been emptied, cleaned and ready for scrapping. The RP is developing a sampling plan to provide for removal of contaminated soil and surface water as appropriate.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Tank Cars derailed include carrying chemicals including chlorine, hydrochloric acid, hydrogen peroxide, sodium hydroxide, and sodium bisulfite. Nineteen (19) hazmat cars were severely damaged during the derailment. Thirteen (13) of the Nineteen (19) are chlorine cars. The hydrochloric acid, hydrogen peroxide, and sodium bisulfite were breached. At least one (1) chlorine car suffered damage within the dome assembly. That car required the installation of a 'C' repair kit. The acid and oxidizer lost significant product which pooled together and created an acid vapor plume that burned approximately 27 responders and community members. Several victims required specialized care in the Doctors Hospital burn unit in Augusta. Additionally, the two railroad workers suffered burns and received advanced medical treatment. EPA Federal On-Scene Coordinators (FOSC) and Superfund Technical Assessment and Response Team (START) have been deployed to coordinate with Local, State and Federal Partners, provide oversight of cleanup operations and to conduct onsite and community air monitoring operations.

2.1.2 Response Actions to Date

The following actions occurred during this reporting period:

START and EPA participated in a daily safety briefing, the safety briefing occurred at 0700 each morning prior to operations beginning.

1/21/19

- •A site safety briefing takes place at 0700 prior to operations beginning.

  •START and EPA deployed air monitoring equipment at four stations surrounding the site. Air monitoring equipment at each station is composed of an AreaRAE that will run continuously throughout the chlorine transfer process with real-time data streaming to ProRAE Guardian and forwarded to VIPER. MultiRAE Pros will act as personal air monitors when EPA and START personnel are on site.

  •CTEH deployed air monitoring equipment at four stations surrounding the site. Air monitoring equipment at each station is composed of an AreaRAE that will run continuously throughout the chlorine transfer process with real-time data streaming. They have MultiRAE Pros used as mobile site monitoring with their personnel.

  •SCSI and SRS began transferring chlorine from the first of two damaged chlorine cars (OLNX 114043 and OLNX 117062) at 0830 and 0900, respectively. The chlorine transfers for those two cars concluded at 1730 and 2200, respectively. Norfolk Southern began transferring the contents of a third chlorine car (SBLX 14116) at 2225, and the transfer was complete at approximately 1100 on 1/22/19. The chlorine will be sent to Olin Corporation in Augusta, GA.

  •Following the completion of the transfer process, SPSI and SRS conducted sparging purging of the remaining contents of the two transferred chlorine cars (OLNX 114043 and OLNX 117062).

  •SCSI and SRS began constructing, staging piping and connection components for the transfer of two more priority chlorine cars. The chlorine transfers continuing and beginning the transfer process on Tuesday are deemed a priority based on the severity of damage to the tanker.

  •START maintained and monitored air monitoring equipment and data throughout the day. All air monitoring maintained normal/background readings during the entirety of all chlorine transfer processes; no action levels were hit.

  •HEPACO transferred roughly 30,000 gallons of pit water staged in frac tanks into four tanker trucks. The water will be transferred off-site by Shamrock Environmental in Greensboro, NC for wastewater treatment. HEPACO subsequently refilled the frac tanks by pumping out water from the pit into the recently emptied frac tanks (~30,000 gallons).

  •In the afternoon, CTEH conducted water quality monitoring at 7 locations west and southwest of the site. The pH of the swamp area west of the pit was 4 along the shoreline of the swamp. The pH at the rest of the areas ranged from 6 to 7. START documented their readings.

  A site safety briefing take place at 0700 prior to operations beginning.
- START and EPA deployed air monitoring equipment at four stations surrounding the site. Air monitoring equipment at each station is composed of an AreaRAE that will run continuously throughout the chlorine transfer process with real-time data streaming to ProRAE Guardian and forwarded to VIPER. MultiRAE Pros will act as personal air monitors when EPA and START personnel are on site.
- CTEH deployed air monitoring equipment at four stations surrounding the site. Air monitoring equipment at each station is composed of an AreaRAE that will run continuously throughout the chlorine transfer process with real-time data streaming. They have MultiRAE Pros used as mobile site monitoring with their personnel.
- SPSI and SRS began transferring chlorine from the first of two damaged chlorine cars (OLNX 114043 and OLNX 117062) at 0830 and 0900, respectively. The chlorine transfers for those two cars concluded at 1730 and 2200, respectively. Norfolk Southern began transferring the contents of a third chlorine car (SBLX 14116) at 2225 and the transfer was complete at approximately 1100 on 1/22/19. The chlorine will be sent to Olin Corporation in Augusta, GA.
- Following the completion of the transfer process, SPSI and SRS conducted sparging and purging of the remaining contents of the two transferred chlorine cars (OLNX 114043 and OLNX 117062).

- SPSI and SRS began constructing, staging piping and connection components for the transfer of two more priority chlorine cars. The chlorine transfers continuing and beginning the transfer process on Tuesday are deemed a priority based on the severity of damage to the tanker.
- START maintained and monitored air monitoring equipment and data throughout the day. All air monitoring maintained normal/background readings during the entirety of all chlorine transfer processes, no action levels were hit.
- HEPACO transferred roughly 30,000 gallons of pit water staged in frac tanks into four tanker trucks. The water will be transferred off site by Shamrock Environmental in Greensboro, NC for waste water treatment. HEPACO subsequently refilled the frac tanks by pumping out water from the pit into the recently emptied frac tanks (~30,000 gallons).
- In the afternoon, CTEH conducted water quality monitoring at 7 locations west and southwest of the site. The pH of the swamp area west of the pit was 4 along the shoreline of the swamp. The pH at the rest of the areas ranged from 6 to 7. START documented their readings.

1/22/19

- •A site safety briefing takes place at 0700 prior to operations beginning.

  •Norfolk Southern, SPSI, and SRS began transferring chlorine from the third of 13damaged chlorine cars (SBLX 14116) at 2225 on 1/21/19, and the fourth (OLNX240049) on 1/22/19 at 0820. The chlorine transfers for those two cars concluded at 1100 and 2030, respectively. Following the transfer process, each car began the degassing and sparging process for final clearance. The chlorine will be sent to Olin Corporation in Augusta, GA.

  •START and EPA continued air monitoring at four stations surrounding the site. START maintained and monitored air monitoring equipment and data throughout the day and night. All air monitoring maintained normal/background readings during the entirety of all chlorine transfer processes; no action levels were hit. Air monitoring equipment at each station is composed of an AreaRAE that will run continuously throughout the chlorine transfer process with real-time data streaming to ProRAE Guardian and forwarded to VIPER. MultiRAE Pros will act as personal air monitors when EPA and START personnel are on site.

  •Following the completion of the chlorine transfer from SBLX 14116, chlorine car OLNX117062 was repositioned and leveled with heavy equipment to remove all remaining product. The remaining chlorine was transferred from 1840 to2000.

  •SCSI and SRS began constructing, staging piping and connection components for the transfer of the next set of chlorine cars that will continue Thursday1/24/19.

  •HEPACO transferred, roughly 20,000 gallons of pit water, staged in frac tanks into five tanker trucks. The water will be transferred off-site by Shamrock Environmental in Greensboro, NC for wastewater treatment. HEPACO subsequently refilled the frac tanks by pumping out water from the pit into the recently emptied frac tanks (~20,000 gallons).

  •In the afternoon, CTEH conducted water quality monitoring at 7 locations west and southwest of the site. The pH of the swamp area west of the pit was 4 along the shoreline of the swamp. The pH at the rest of the areas ranged from 6 to 7. START documented their readings.

1/23/19

- A site safety briefing take place at 0700 prior to operations beginning.
- The operations consisted of site maintenance, preparation for the next set of chlorine transfers, degassing and sparging emptied chlorine cars. Norfolk Southern swapped the four full chlorine rail cars for four new empty rail cars. Chlorine transfers are set to resume on Thursday 1/24/19. The chlorine will be sent to Olin Corporation in Augusta, GA.
- START and EPA continued air monitoring at four stations surrounding the site. START maintained and monitored air monitoring equipment and data throughout the day and night. All air monitoring maintained normal/background readings during the entirety of all chlorine transfer processes, no action levels were hit. Air monitoring equipment at each station is composed of an AreaRAE that will run continuously throughout the chlorine transfer process with real-time data streaming to ProRAE Guardian and forwarded to VIPER. MultiRAE Pros will act as personal air monitors when EPA and START personnel are on site.
- SPSI and SRS began the degassing and sparging process for final clearance on previously transferred chlorine cars.

- Norfolk Southern swapped the filled chlorine cars on the rail spur (SBLX 14037, SBLX 14048, SHPX 240437, and TILX 600803), and replaced them with four new empty chlorine cars (TILX 600797, TILX 600856, OLNX 711156, and OCAX 80656).
- SPSI and SRS began constructing and staging piping and connection components for the transfer of the next set of chlorine cars that will occur on Thursday 1/24/19.
- HEPACO transferred roughly 50,000 gallons of pit water staged in frac tanks into ten tanker trucks. The water will be transferred off site to Shamrock Environmental in Greensboro, NC for waste water treatment. HEPACO subsequently refilled the frac tanks by pumping out water from the pit into the recently emptied frac tanks (~20,000 gallons). The pit is roughly 20% of its original size.
- In the afternoon, CTEH conducted water quality monitoring at 7 locations west and southwest of the site. The pH of the swamp area west of the pit was 4.5 along the shoreline of the swamp. The pH at the rest of the areas ranged from 6 to 7.

1/24/19

- •A site safety briefing takes place at 0700 prior to operations beginning.

  •The operations consisted of site maintenance, preparation for the next set of chlorine transfers, degassing and sparging emptied chlorine cars. Norfolk Southern swapped the four full chlorine rail cars for four new empty rail cars. Chlorine transfers are set to resume on Thursday 1/24/19. The chlorine will be sent to Olin Corporation in Augusta, GA.

  •START and EPA continued air monitoring at four stations surrounding the site. START maintained and monitored air monitoring equipment and data throughout the day and night. All air monitoring maintained normal/background readings during the entirety of all chlorine transfer processes; no action levels were hit. Air monitoring equipment at each station is composed of an AreaRAE that will run continuously throughout the chlorine transfer process with real-time data streaming to ProRAE Guardian and forwarded to VIPER. MultiRAE Pros will act as personal air monitors whenever EPA and START personnel are on site.

  •SCSI and SRS began the degassing and sparging process for final clearance previously transferred chlorine cars.

  •Norfolk Southern swapped the filled chlorine cars on the rail spur (SBLX 14037, SBLX 14048, SHPX 240437, and TILX 600803), and replaced them with four new empty chlorine cars (TILX 600797, TILX 600856, OLNX 711156, and OCAX80656).

  •SCSI and SRS began constructing and staging piping and connection components for the transfer of the next set of chlorine cars that will occur on Thursday 1/24/19.

  •HEPACO transferred, roughly 50,000 gallons of pit water, staged in frac tanks into tanker trucks. The water will be transferred off-site to Shamrock Environmental in Greensboro, NC for wastewater treatment. HEPACO subsequently refilled the frac tanks by pumping out water from the pit into the recently emptied frac tanks (~20,000 gallons). The pit is roughly20% of its original size.

  •In the afternoon, CTEH conducted water quality monitoring at 7 locations west and southwest of the site. The pH of the swamp area west of the pit was 4.5 along the shoreline of the swamp. The pH at the rest of the areas ranged from 6 to 7.

1/25/19

- •A site safety briefing takes place at 0700 prior to operations beginning.

  •The operations consisted of site maintenance, preparation for the next set of chlorine transfers, degassing and sparging emptied chlorine cars. Norfolk Southern swapped the four full chlorine rail cars for four new empty rail cars. Chlorine transfers are set to resume on Thursday 1/24/19. The chlorine will be sent to Olin Corporation in Augusta, GA.

  •START and EPA continued air monitoring at four stations surrounding the site. START maintained and monitored air monitoring equipment and data throughout the day and night. All air monitoring maintained normal/background readings during the entirety of all chlorine transfer processes; no action levels were hit. Air monitoring equipment at each station is composed of an

AreaRAE that will run continuously throughout the chlorine transfer process with real-time data streaming to ProRAE Guardian and forwarded to VIPER. MultiRAE Pros will act as personal air monitors whenever EPA and START personnel are on site.

•SCSI and SRS began the degassing and sparging process for final clearance previously transferred chlorine cars.

•Norfolk Southern swapped the filled chlorine cars on the rail spur (SBLX 14037, SBLX 14048, SHPX 240437, and TILX 600803), and replaced them with four new empty chlorine cars (TILX 600797, TILX 600856, OLNX 711156, and OCAX80656).

•SCSI and SRS began constructing and staging piping and connection components for the transfer of the next set of chlorine cars that will occur on Thursday 1/24/19.

•HEPACO transferred, roughly 50,000 gallons of pit water, staged in frac tanks into tanker trucks. The water will be transferred off-site to Shamrock Environmental in Greensboro, NC for wastewater treatment. HEPACO subsequently refilled the frac tanks by pumping out water from the pit into the recently emptied frac tanks (~20,000 gallons). The pit is roughly20% of its original size.

•In the afternoon, CTEH conducted water quality monitoring at 7 locations west and southwest of the site. The pH of the swamp area west of the pit was 4.5 along the shoreline of the swamp. The pH at the rest of the areas ranged from 6 to 7.

1/26/19

- A site safety briefing take place at 0700 prior to operations beginning.
- Operations consisted of swapping the four full chlorine rail cars for five empty chlorine rail cars and preparation for the next set of chlorine transfers.
- Norfolk Southern swapped the filled chlorine cars on the rail spur (TILX 600797, TILX 600856, OLNX 711156, and OCAX 80656), and replaced them with five new empty chlorine cars (TILX 400100, SBLX 14163, OCAX 80801, OLNX 711034, and ACFX 240021). The chlorine will be sent to Olin Corporation in Augusta, GA.
- SPSI and SRS began constructing and staging piping and connection components for the transfer of the next set of chlorine cars. The next chlorine cars to be transferred are SBLX 14134 and SHPX 240336.
- SPSI and SRS continued the degassing and sparging process for final clearance on previously transferred chlorine cars. The pressure plates were removed from cars OLNX 240049 and OLNX 116208.
- START and EPA continued air monitoring at four stations surrounding the site. START maintained and monitored air monitoring equipment and data throughout the day and night. All air monitoring maintained normal/background readings during the entirety of all chlorine transfer processes, no action levels were hit during the transfer process. Air monitoring equipment at each station is composed of an AreaRAE that will run continuously throughout the chlorine transfer process with real-time data streaming to ProRAE Guardian and forwarded to VIPER. MultiRAE Pros will act as personal air monitors when EPA and START personnel are on site.
- HEPACO consolidated all remaining pit water staged in each of the three frac tanks into one of the frac tanks.
- HEPACO began work to stage the non-hazardous derailed rail cars for removal from the site.
- In the afternoon, CTEH conducted water quality monitoring at 7 locations west and southwest of the site as well. The pH of the swamp area west of the pit was 6.3 along the shoreline and 4.2 approx. 10-15 yards into the swamp. The pH at the rest of the areas ranged from 6.1 to 7.3.

1/27/19

- •A site safety briefing takes place at 0700 prior to operations beginning.

  •SPSI and SRS began transferring chlorine from the ninth and tenth (SHPX 240336 and SBLX 14134) of 13 damaged chlorine cars at 0754and 0800, respectively. The chlorine transfers for the cars concluded at2100 with the second transfer concluded at 0120 on 1/28/19. The chlorine will be sent to Olin Corporation in Augusta, GA.

  •SCSI and SRS continued the degassing and sparging process for final clearance previously transferred chlorine cars. The pressure plate was removed from car SBLX 14116.

•SPSI and SRS began constructing and staging piping and connection components for the transfer of the next set of chlorine cars. The next chlorine cars to be transferred are OLNX 117045 and OLNX 116025.

•START and EPA continued air monitoring at four stations surrounding the site. START maintained and monitored air monitoring equipment and data throughout the day and night. All air monitoring maintained normal/background readings during the entirety of all chlorine transfer processes; no action levels were hit during the transfer process. An instantaneous Cl2 reading of 1.3 ppm during the degassing process. Monitored levels returned and were maintained at 0.0 ppm immediately after. Air monitoring equipment at each station is composed of an AreaRAE that will run continuously throughout the chlorine transfer process with real-time data streaming to ProRAE Guardian and forwarded to VIPER. MultiRAE Pros will act as personal air monitors when EPA and START personnel are on site.

•In the afternoon, CTEH conducted water quality monitoring at 7 locations west and southwest of the site as well. The pH of the swamp area west of the pit was 3.6 along the shoreline and3.5 approx. 10-15 yards into the swamp. The pH at the rest of the areas ranged from 5.6 to 6.6.

•HEPACO worked on addressing the carbon black car that is derailed southwest of the site.

1/28/19

- •A site safety briefing takes place at 0700 prior to operations beginning.

•SPSI and SRS began transferring chlorine from the eleventh and twelfth (OLNX 116025 and OLNX 117045) of 13 damaged chlorine cars at 0730 and 0740, respectively. The chlorine transfer for those cars concluded at 1730 and the second transfer concluded at 1900. The next transfer, which will also be the last derailed chlorine car (OLNX114055) to transfer. The chlorine will be sent to Olin Corporation in Augusta, GA.

•SCSI and SRS continued the degassing and sparging process for final clearance previously transferred chlorine cars. The pressure plate was removed from SHPX 240422.

•SPSI and SRS began constructing and staging piping and connection components for the transfer of the last derailed chlorine car. The next chlorine car to be transferred is OLNX 114055.

•SPSI loaded approximately 4,700 gallons of sodium hypochlorite into a tanker truck for delivery to KIK Corporation, Hampton, GA on Tuesday 1/29/19.

•START and EPA continued air monitoring at four stations surrounding the site. START maintained and monitored air monitoring equipment and data throughout the day and night. All air monitoring maintained normal/background readings during the entirety of all chlorine transfer processes; no action levels were exceeded during the transfer process. Air monitoring equipment at each station is composed of an AreaRAE that will run continuously throughout the chlorine transfer process with real-time data streaming to ProRAE Guardian and forwarded to VIPER. MultiRAE Pros will act as personal air monitors when EPA and START personnel are on site.

•In the afternoon, CTEH conducted water quality monitoring at 7 locations west and southwest of the site as well. The pH of the swamp area west of the pit was 3.1 along the shoreline and4.4 approx. 10-15 yards into the swamp. The pH at the rest of the areas ranged from 5.8 to 6.2.

•CTEH tested the pH of the spill pathway (pH of 1.28) and of the soil directly outside the spill pathway (pH of 3.1-3.8). Also collected background soil pH readings (pH of 4.2-4.7)

•HEPACO excavated, loaded and staged 6 roll-off boxes of carbon black from the southwest of the site.

•HEPACO vacuumed the acidic water out of the pit along the southwest side of the rail line. They reduced the size of the pit approximately a 40'x15'. A berm was built around the remaining pit water, and a portion of the pit was backfilled and graded.

•PECO pumped the pit water staged in the frac tanks on site. Approximately 5,000 gallons of pit water was transferred into a tanker truck. The water will be transported off-site to Shamrock Environmental in Greensboro, NC for wastewater treatment.

1/29/19

- •A site safety briefing takes place at 0700 prior to operations beginning.

  •SPSI and SRS began transferring chlorine from the last (the thirteenth) of 13 damaged chlorine cars at 0730. The last chlorine transfer concluded at 1840. The chlorine will be sent to Olin Corporation in Augusta, GA.

  •SCSI and SRS continued the degassing and sparging process for final clearance previously transferred chlorine cars. They are using heaters to heat the remaining derailed chlorine cars to prevent auto-refrigeration of the remaining liquid chlorine in the cars. No pressure plates were removed.

  •START and EPA continued air monitoring at four stations surrounding the site. START maintained and monitored air monitoring equipment and data throughout the day and night. All air monitoring maintained normal/background readings during the entirety of all chlorine transfer processes; no action levels were hit during the transfer process. Air monitoring equipment at each station is composed of an AreaRAE that will run continuously throughout the chlorine transfer process with real-time data streaming to ProRAE Guardian and forwarded to VIPER. MultiRAE Pros will act as personal air monitors when EPA and START personnel are on site.

  •In the afternoon, CTEH conducted water quality monitoring at 7 locations west and southwest of the site. The pH of the swamp area west of the pit was 4.4 along the shoreline and 3.4 approx.10-15 yards into the swamp. The pH at the rest of the areas ranged from 5.6 to 6.7.

  •HEPA vacuumed the pit water out of the roughly 40'x15' "pond" bermed off in the pit. The pit water pumped from the pit was staged in the frac tanks on site and transferred 5 tanker trucks. Approximately 25,000 gallons were transported off-site today for water treatment at Shamrock Environmental Greensboro, NC for wastewater treatment.

A summary of the chlorine transfer process that has happened is below:

Damaged Chlorine Car	Empty Chlorine Car	Start Time	End Time	Gallons Transferred	Pressure Plate Removed
OLNX 114043	SBLX 14037	1/21: 0830	1/21: 1730	Approx. 90 tons	1/25
OLNX 117062	SBLX 14048	1/21: 0900	1/21: 2200	Approx. 90 tons	1/25
SBLX 14116	SHPX 240437	1/21: 2225	1/22: 1100	Approx. 90 tons	1/27
OLNX 240049	TILX 600803	1/22: 0820	1/22: 2030	Approx. 90 tons	1/26
SHPX 240422	TILX 600797	1/24: 0736	1/24: 1800	Approx. 90 tons	1/28
OLNX 116208	OLNX 71156	1/24: 0741	1/24: 2340	Approx. 90 tons	1/26
SHPX 240213	TILX 600856	1/25: 0735	1/25:1800	Approx. 90 tons	No
SBLX 14079	OCAX 80656	1/25: 0800	1/25: 2130	Approx. 90 tons	No
SHPX 240336	TILX 400100	1/27: 0754	1/27: 2100	Approx. 90 tons	No
SBLX 14134	ACFX 240021	1/27: 0800	1/28: 0118	Approx. 90 tons	No

OLNX 116025	OLNX 117045	1/28: 0730	1/28: 1900	Approx. 90 tons	No
OLNX 117045	OCAX 80801	1/28: 0740	1/28: 1730	Approx. 90 tons	No
OLNX 114055	SBLX 14163	1/29: 0730	1/29: 1840	Approx. 90 tons	No

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The Railroad Line and Train was operated by Norfolk Southern (NS). The product involved in the release was owned by multiple different parties. No enforcement actions have been taken as of this time.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*
Hydrochloric acid	air/water/soil	17,000 gallons			
Chlorine	air	< 1 lb			
Hydrogen peroxide	air/water/soil	15,000 gallons			
Sodium Bisulfite solution	water/soil	5 gallons			
"pit" water	water	150,000 gallons		wastewater treatment	

2.2 Planning Section

2.2.1 Planned Response Activities

The chlorine transfer was completed on January 29, they will continue to sparge, purge and clean the rail cars. During the sparging process, chlorine is sparged through sodium hydroxide to produce sodium hypochlorite. The estimated total volume of sodium hypochlorite that will be generated during this process is 60,000 to 80,000 gallons. The sodium hypochlorite will be shipped to a buyer as a product. In addition to cleaning the chlorine rail cars, they will transfer the sodium bisulfite to tanker trucks and transport the product to be used. After the remaining 7 hazmat rail cars are clean, they will work to scrap the derailed cars for transport off-site. The remaining sodium hydroxide on site to sparge the chlorine will be transported off-site.

Pumping of the onsite collection pit will only be conducted when needed to prevent it from leaving the pit area. The remaining pit water will be shipped for offsite wastewater treatment.

Daily

- 0700 hours Site Safety Brief.
- Night shift will end operations after the chlorine cars are purged and cleaned.

Wednesday 1/30

- 0700 hours Site Safety Brief
- Day Shift –Depressurize and degas empty chlorine cars, managed scrubber solutions, transfer and transport sodium hypochlorite for reuse.
- Night shift - Depressurize and degas empty chlorine cars, managed scrubber solutions

Thursday 1/31

- 0700 hours Site Safety Brief
- Day Shift –Depressurize and degas empty chlorine cars, managed scrubber solutions, transfer and transport sodium hypochlorite for reuse.
- Night shift - Depressurize and degas empty chlorine cars, managed scrubber solutions

Friday 2/1

- 0700 hours Site Safety Brief
- Day Shift –Depressurize and degas empty cars, managed scrubber solutions, transfer and transport sodium bisulfite and sodium hypochlorite
- Night shift - Depressurize and degas empty chlorine cars, managed scrubber solutions

Saturday 2/2

- 0700 hours Safety Brief
- Day Shift –Depressurize and degas empty chlorine cars, managed scrubber solutions
- Night shift - Depressurize and degas empty cars, managed scrubber solutions
- Night shift is expected to end over the weekend, there should not be night shift going forward

Sunday 2/3

- 0700 hours Safety Brief
- Day Shift –Depressurize and degas empty cars, managed scrubber solutions
- Begin scrapping the derailed cars for removal from the site

Monday 2/4

- 0700 hours Site Safety Brief
- Transfer and transport sodium bisulfite and sodium hypochlorite
- Scrapping the derailed cars for removal from the site

2.2.2 Issues

No issues identified during this reporting period.

2.3 Logistics Section

Logistical support is provided by:

Norfolk Southern
Contractors for Norfolk Southern
EPA START Contractor
The EPA Regional Readiness Center (RRC)

2.4 Finance Section

2.4.1 Narrative

A Technical Direction Document (TDD) was issued to START Contractor Tetra Tech to provide assistance with the response.

2.5 Other Command Staff

2.5.1 Safety Officer

No injuries or safety incidents occurred during this reporting period. EPA has reviewed the health and safety plans for the Chlorine Transfer Operations. EPA and START participate in daily site safety briefings.

2.5.2 Liaison Officer

EPA FOSC continue to coordinate with GAEPD and Jefferson County.

2.5.3 Information Officer

No media request occurred during this reporting period. Jefferson County EMA has taken the lead on media and community relations.

3. Participating Entities

3.1 Unified Command

Jefferson County Emergency Management Agency (EMA) Director and GAEPD State On-Scene Coordinator (SOSC) remain engaged from their respective offices. EPA R4 and Norfolk Southern remain

onsite, rotating key personnel. For EPA, FOSC Garrard mobilizes January 20 and demobilize on January 24, FOSC Harper mobilizes January 24 and intends to demobilize on January 31. EPA START contractor also rotates personnel and have maintained a continuous presence.

3.2 Cooperating Agencies

Federal Railroad Administration (FRA) is independently conducting their investigations on site and off site. Region 4 Regional Response Team (RRT) has convened episodically throughout the response.

4. Personnel On Site

Jefferson County Emergency Management Personnel are assisting with the response.

GAEPD SOSC are assisting with the response

Norfolk Southern is on-scene with resources mobilized including HAZMAT cleanup contractors, Environmental Scientists, Derailment cleanup contractors, and HAZMAT Technical Specialists.

One (1) Region 4 EPA On-Scene Coordinators is onscene provide oversight and coordinating with State and Local Partners.

Superfund Technical Assessment and Response Team (START) contractors have been deployed to support EPA in the response.

5. Definition of Terms

No pertinent information to report at this time.

6. Additional sources of information

6.1 Internet location of additional information/report

Additional information can be found at response.epa.gov/nsbartowchlorine. Log-in credentials may be required to view certain content.

6.2 Reporting Schedule

Pollution Reports (POLREP) will be drafted based on operational activities. Please note that POLREP must be review and approved prior to publication, so there may be a delay.

7. Situational Reference Materials

Additional information can be found at response.epa.gov/nsbartowchlorine. Log-in credentials may be required to view certain content.

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Norfolk Southern Bartow Derailment - Removal Polrep
Final Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject:	**POLREP #5** **Final POLREP** **Norfolk Southern Bartow Derailment** **Bartow, GA** **Latitude: 32.8973490 Longitude: -82.4908240**
To:	James Webster, USEPA R4 ERRPB Jerry Campbell, GAEPD
From:	Rick Jardine, Federal On-Scene Coordinator (FOSC)
Date:	5/1/2019
Reporting Period:	February 1, 2019 to February 28, 2019

1. Introduction

1.1 Background

Site Number:	C476	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	PRP Oversight
Response Lead:	PRP	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	1/6/2019	**Start Date:**	1/6/2019
Demob Date:	2/7/2019	**Completion Date:**	2/28/2019
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	01/06/2019
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

Comprehensive Environmental Response, Compensation and Liability Act - Mobile Transportation Accident. This action is the Consequence Management Phase of an Emergency Response.

1.1.2 Site Description - Derailment

On January 6, Norfolk Southern reported the derailment of approximately 39 cars, 19 of which were carrying hazardous materials (HAZMAT), traveling near the City of Bartow, Georgia causing the evacuation of approximately 350 residents. Norfolk Southern, Jefferson County Emergency Management Agency, Georgia Environmental Protection Division (GAEPD) and the EPA established a Unified Command.

1.1.2.1 Location

The location of the derailment (the Site) is near Friendship Church Road and State Highway 171. The nearest town landmark is the City of Bartow. Norfolk Southern reported via the National Response Center (Report # 1234710) that the derailment took place on the main line at Mile Post (MP) S112.7. The derailment occurred in a wetland area of Williamson Swamp Creek, which is a tributary of the Ogeechee River. The immediate area surrounding the Site is predominantly farmland. The City of Bartow, the most populated area, is located two (2) miles from the derailment site.

1.1.2.2 Description of Threat

Poison Inhalation hazard, intense fire or explosion, severe skin and respiratory burns. The following hazardous substances were involved in the derailment:

Hydrochloric Acid is classified as a corrosive liquid that causes severe skin burns and eye damage on contact. It is toxic if inhaled.

Hydrogen Peroxide is classified as an oxidizing material. May cause fire or explosion on contact with organic materials such as diesel fuel. Hydrogen Peroxide causes severe skin burns and eye damage. Harmful if inhaled.

Sodium Hydroxide is classified as a corrosive material that causes severe skin burns and eye damage.

Sodium Bisulfite is classified as a corrosive material. Harmful if swallowed that causes serious eye damage. This tank car is not currently releasing.

Chlorine is classified as a poison by inhalation hazard and a marine pollutant. May cause or intensify when involved in a fire. Chlorine causes skin irritation and causes serious eye irritation. Toxic if inhaled. Very toxic to aquatic life. These tank cars are not currently releasing.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

During this reporting period, Norfolk Southern successfully completed all rail car activity. Norfolk Southern developed a plan of long-term monitoring and remediation for residual chemicals that may have been released to the soil and/or groundwater. Both the EPA and GAEPD reviewed and approved the Environmental Monitoring and Endpoints Plan. GAEPD assumed the regulatory/authority lead to provide oversight for the implementation of the plan.

2.1.2 Response Actions to Date -

Norfolk Southern successfully completed all material off-loads, final placement or ultimate disposal of materials and wastes, decontaminated, and scrapped all impacted rail cars and appurtenances.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs) - ongoing.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*

waste water containing HCl, H2O2, NaSO3	stormwater	150,000 gallons			

2.2 Planning Section

EPA is no longer conducting planning.

2.3 Logistics Section

All logistics are the pursuit of NS Corp.

2.4 Finance Section

2.4.1 Narrative

All work performed by EPA and consultant TTEMI has been completed, final costs are pending.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

Jefferson County EMA - Jim Anderson - 478-206-2316
Georgia EPD - John Maddox - 770-387-4900
Norfolk Southern - David Schoendorfer - david.schoendorfer@nscorp.com

4. Personnel On Site

No information available at this time.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

6.1 Internet location of additional information/report

Additional information can be found at response epa gov/nsbartowchlorine. Log-in credentials may be required to view certain content.

7. Situational Reference Materials

No information available at this time.